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SHAMPOO COMPOSITION

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Claim

1. A shampoo composition characterized by the fact that the following various components are contained in a shampoo with an anionic surfactant, a nonionic surfactant, an amphoteric surfactant or other surfactant as a basic component.

a) Bis(2-pyridylthio l oxide) metal salt,

b) A water-soluble polymeric compound cationized with a quaternary nitrogen group,

c) An alkanolamide of a higher fatty acid, and

d) A mono- or di- higher fatty acid salt of ethylene glycol or polyethylene glycol

Detailed explanation of the invention

The present invention relates to a shampoo composition. More specifically, it relates to a shampoo composition that prevents the generation of dandruff and leaves the hair manageable (the conditioning effect).

As the hair dandruff generation inhibitors, bis(2-pyridylthio-1 oxide) metal salts (especially zinc salt)(referred to as M-pt hereafter) are known. However, if this M-pt is used, there is a disadvantage in which hair shampooing has a loose feeling. Furthermore, this M-pt has a high specific gravity and a strong agglomerating characteristic. Therefore, it has the property of being extremely difficult to disperse. On the other hand, as a conditioner to finish hair in a soft, manageable way and to improve its feel, a water-soluble polymeric compound cationized with a quaternary nitrogen group (referred to as cationized polymer hereafter) is known.

Therefore, if M-pt and the cationized polymer are used in combination in the shampoo, it is expected that the dandruff preventing effect and the soft, manageable finishing effect can be achieved simultaneously. Nevertheless, the cationized polymer further inhibits the dispersion of M-pt. It is not easy to use these two in combination.

In view of the things described previously, and as a result of the accumulation of zealous investigations on the methods for the dispersion of M-pt in the case of simultaneously using M-pt and the cationized polymer in the shampoo composition, the present inventors have discovered that this objective can be easily achieved if an alkanolamide of a higher fatty acid, and ethylene glycol or polyethylene glycol mono-or di- higher fatty acid salt are simultaneously blended with M-pt and the cationized polymer in the shampoo composition.

The present invention will be explained in detail in the following. As the shampoo composition of the present invention, one or more of an anionic surfactant, a nonionic surfactant and an amphoteric surfactant commonly used as shampoo (washing) components for hair are used as the basic components. There are no special restrictions on these surfactants. Ordinary

commercial products can be used. Furthermore, as M-pt, a zinc salt is preferred among the metal salts. Commercial products can be used. As the cationized polymers for example, quaternary nitrogen-substituted cellulose ester derivatives marketed as Polymer JR (manufactured by UCC Co.) or Rheoguard G (manufactured by Lion Co.), quaternary nitrogen-containing poly(trialkylamino ethyl methacrylate) derivatives marketed as Sumilac (manufactured by Sumitomo Chemical Co.) derivatives, water-soluble cationic polymers of tetraethylene pentamine and epichlorohydrin marketed as Nalco 600 (manufactured by Nalco Chemical Co.), etc. can be mentioned. In particular, Polymer JR and Rheoguard G can be used preferably.

In the present invention, the necessary condition is to use, in combination, an alkanolamide of a higher fatty acid and a mono- or di- higher fatty acid salt of ethylene glycol or polyethylene glycol, together with the various components mentioned previously. The alkanolamides of higher fatty acids, include alkanolamides of C_{8-22} higher fatty acids. For example, alkanolamides of monoethanol, diethanol, propanol, isopropanol, etc. of lauric acid, palmitic acid, stearic acid, oleic acid and other higher fatty acids are available. In particular, the isopropanolamide of lauric acid can be used preferably. Furthermore, the mono- or di- fatty acid salts of ethylene glycol or polyethylene glycol include C_{14-22} higher fatty acid salts of ethylene glycol or polyethylene glycol (the number of moles of EO being 3-600 mol). For example, ethylene glycol monostearate, ethylene glycol dipalmitate, polyethylene glycol monooleate, polyethylene glycol distearate, etc. can be mentioned. In particular, ethylene glycol monostearate can be used preferably.

The composition of the present invention is a material obtained by blending the various components mentioned previously into the conventional shampoo composition containing a surfactant as a basic component, and a perfume, a preservative, a moisture-maintaining agent, a per- fatty acid agent, a coloring agent, a metal sequestering agent, etc. as secondary components. Their blending ratios (with respect to the shampoo composition) are as follows:

a) An alkanolamide of a higher fatty acid, 0.1-4.5 wt%, preferably 1.0-3.0 wt%,

b) Mono- or di- higher fatty acid salt of ethylene glycol or polyethylene glycol, 0.1-4.5 wt%, preferably 0.5-3.0 wt%,

c) M-pt, 0.3-3.0 wt%, preferably 0.5-1.5 wt%, and

d) Cationized polymer, 0.1-2.5 wt%, preferably 0.5-1.5 wt%.

The shampoo composition of the present invention is not restricted to the fact that M-pt and the cationized polymer are contained simultaneously. The dispersion of M-pt can be maintained in an extremely stable manner. Therefore, together with the effect of preventing dandruff by M-pt, a soft, manageable feel is rendered at the same time.

The present invention will be further explained specifically with the following application examples. The present invention is not to be restricted to the following application

examples as long as its gist is not exceeded. The numbers in the table for the application examples represent wt%.

Application Example 1

The shampoo composition components (materials according to cosmetic feedstock standards or not) shown in Table I were mixed in the ratios shown in the same table to prepare shampoo liquids A, B and C. These various shampoo liquids were pearlescent liquids. There was no coarsening of particles. The liquid dispersion stability (standing at 45°C for 6 months) was perfectly good. Furthermore, each of the shampoo liquids was used for hair washing for 20 persons. The dandruff preventing effect and the soft, manageable feel effect were achieved.

Table I

(1) シャンプー組成成分 ＼ (2) シャンプー液	A	B	C
(3) ラウリル硫酸アンモニウム 36%水溶液	10.0	10.0	–
(4) ラウリルエーテル硫酸アンモニウム 28%水溶液	40.0	–	–
(5) ラウリルエーテル硫酸ナトリウム 30%水溶液	–	25.0	–
(6) ラウリル硫酸トリエタノールアミン 36%水溶液	–	–	10.0
(7) ラウリルエーテル硫酸トリエタノールアミン36%水溶液	–	–	25.0
(8) ヤシ油脂肪酸ジエタノールアミン	3.0	2.0	1.5
(9) ラウリン酸イソプロパノールアミン	2.0	1.0	2.0
(10) モノステアリン酸エチレングリコール	2.0	1.0	–
(11) ジステアリン酸エチレングリコール	–	–	1.5
(12) グリセリン	5.0	5.0	–
(13) プロピレングリコール	–	–	5.0
(14) ビス(2-ピリジルチオ-1-オキサイド)亜鉛塩の50%分散水液	2.0	2.0	2.0
(15) カチオン化セルローズ(ダイオン錦、レオガードG)	1.5	1.0	0.75
(16) 染　料(青色1号)	0.001	0.001	0.001
(17) 香　料	0.50	0.50	0.50
(18) 水	Balance	Balance	Balance

Key:
1 Shampoo composition components
2 Shampoo liquid
3 Lauryl sulfate ammonium salt, 36%, aqueous solution
4 Lauryl ether sulfate ammonium salt, 28% aqueous solution
5 Lauryl ether sulfate sodium salt, 30% aqueous solution

6	Lauryl sulfate triethanolamine salt, 36% aqueous solution
7	Lauryl ether sulfate triethanolamine salt, 36% aqueous solution
8	Coconut oil fatty acid diethanolamine
9	Lauric acid isopropanolamine salt
10	Monostearic acid ethylene glycol
11	Distearic acid ethylene glycol
12	Glycerin
13	Propylene glycol
14	Bis(2-pyridylthio-1 oxide) zinc salt 50% dispersed aqueous solution
15	Cationized cellulose [Lion Co., Rheoguard G]
16	Dye (Blue No. 1)
17	Perfume
18	Water